



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION 8, MONTANA OFFICE**  
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**HELENA, MONTANA 59626**

Ref: 8MO

May 21 2009

Lower West Fork – Comments  
Forest Supervisor's Office  
Bitterroot National Forest  
1801 North 1<sup>st</sup> Street  
Hamilton, Montana 59840-3114

Re: CEQ # 20090105 EPA Comments on  
Lower West Fork Project DEIS

Dear Sir or Madam:

The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Environmental Impact Statement (DEIS) for the Bitterroot National Forest's Lower West Fork Project in accordance with EPA responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. 4231 and Section 309 of the Clean Air Act. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major Federal agency action. EPA's comments include a rating of both the environmental impact of the proposed action and the adequacy of the NEPA document.

The EPA supports conduct of vegetation management activities to reduce fire risks and improve forest resilience to fire, insects and disease, particularly to restore declining species such as Ponderosa pine and western larch. We encourage planning, design and conduct of vegetation management activities in a manner that minimizes adverse environmental effects, and improves watershed conditions whenever possible, particularly in the watershed of a water quality impaired stream included on Montana's Clean Water Act Section 303(d) list (West Fork Bitterroot River). We are pleased that each of the action alternatives includes activities to improve watershed conditions (i.e., road storage and decommissioning, removing culverts that increase sediment production and/or serve as fish barriers, and restoring soil in areas impacted by prior terracing disturbances).

Alternative 3 appears to more watershed improvement activities than Alternative 2 (e.g., 27 miles of road decommissioning and 33 stream crossing removals in Alternative 3 vs. 10 miles of road decommissioning and 22 stream crossing removals in Alternative 2); and Alternative 3

would reduce long term sedimentation more than Alternative 2 (33 tons/year sedimentation reduction vs. 27 tons/year with Alternative 2). Alternative 3 also includes less new road construction, which we consider advantageous since road construction, even construction of temporary roads, increases sediment production. Alternative 3 includes 1.5 miles of temporary road construction and 1.6 miles of tracked line machine (TLM) trail vs. 2.2 miles of temporary road and 1.7 miles of TLM trail for Alternative 2. It is also stated that the risk of sediment contributions to bull trout and westslope cutthroat trout habitat in Piquett Creek and its tributaries would be lower with Alternative 3 because of less timber harvest and log hauling in the Piquett Creek watershed (page 3.7-29). Alternative 3 includes 540 less acres of tractor harvest and 195 less acres of skyline harvest than Alternative 2 (page 3.9-10).

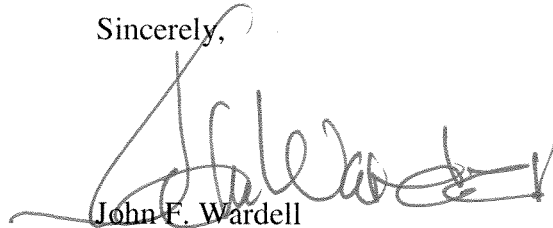
It does appear that Alternative 2 treats a greater amount of land, and thus, may reduce fire risks and may better address forest insects and disease concerns. However, we support Alternative 3 over Alternative 2 due to the improved potential for watershed and water quality improvement and reduced impacts to fish habitat likely to occur with Alternative 3. We consider such benefits of Alternative 3 to be important because the West Fork Bitterroot River is a water quality impaired stream, and the project area is within the Bitterroot Headwaters Total Maximum Daily Load (TMDL) Planning Area. It is important that the proposed project be consistent with the Bitterroot Headwaters Water Quality Restoration Plan TMDL. This TMDL and Water Quality Restoration Plan identifies priority restoration actions that include upgrading road BMPs, road reclamation, stabilizing eroding streambanks, upgrading undersized culverts, correcting barriers to fish passage, improved grazing management. It appears to us that Alternative 3 with higher levels of road decommissioning and storage and stream crossing removals and sediment reduction would be more consistent with the Bitterroot Headwaters TMDL and Water Quality Restoration Plan.

The EPA's further discussion and more detailed questions, comments, and concerns regarding the analysis, documentation, or potential environmental impacts of the Lower West Fork Project DEIS are included in the enclosure with this letter. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the DEIS has been rated as Category EC-2 (Environmental Concerns - Insufficient Information) due to potential for at least short-term sediment effects from proposed management activities. A copy of EPA's rating criteria is attached. We recommend additional analysis and information to fully assess and mitigate all potential impacts of the management actions.

The EPA appreciates the opportunity to review and comment on the DEIS, and the opportunity to review the proposed project in the field. If we may provide further explanation of our comments please contact Mr. Steve Potts of my staff in Helena at 406-457-5022 or in Missoula at 406-329-3313 or via e-mail at [potts.stephen@epa.gov](mailto:potts.stephen@epa.gov).

Thank you for your consideration.

Sincerely,

A handwritten signature in dark ink, appearing to read "John F. Wardell", written over a horizontal line.

John F. Wardell  
Director  
Montana Office

Enclosures

cc: Larry Svoboda/Connie Collins, EPA 8EPR-N, Denver  
Robert Ray/Mark Kelley, MDEQ, Helena

# U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

## Definitions and Follow-Up Action\*

### Environmental Impact of the Action

**LO - - Lack of Objections:** The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC - - Environmental Concerns:** The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO - - Environmental Objections:** The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU - - Environmentally Unsatisfactory:** The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

### Adequacy of the Impact Statement

**Category 1 - - Adequate:** EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 - - Insufficient Information:** The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 - - Inadequate:** EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

\* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

# **EPA COMMENTS ON THE LOWER WEST FORK PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT**

## **Brief Project Overview:**

The Bitterroot National Forest (BNF), West Fork Ranger District, developed the Lower West Fork Project EIS to evaluate alternatives and disclose environmental impacts of proposed management activities in the drainages of the West Fork Bitterroot River, including Nez Perce, Pierce, Lavene, Christisen, Piquett, Violet, Pine, Applebury, Baker, Lloyd, Boulder, and Steep Creek drainages. The purpose and need is to reduce fuel loads in and adjacent to the WUI, improve forest resilience to fire, address insects and disease, reduce soil compaction on terraces, and reduce siltation and fish barriers created by roads/road conditions. The project area is located approximately 15 miles southwest of Darby, Montana, and occupies approximately 38,400 acres, including about 3,400 acres of private lands. Three alternatives were evaluated in detail in the DEIS.

Alternative 1 is the No Action alternative, which provides a baseline for comparison of the environmental effects of the other alternatives.

Alternative 2 is the proposed action, and includes fuels reduction on approximately 5,053 acres using commercial thinning (2,494 acres, using ground based and skyline cable logging systems), and prescribed fire. Approximately 84% of the treatment areas would occur in the WUI. Commercially thinned units would be underburned following harvest. Fuels would be reduced on another 1,700 acres using prescribed fire only. About 295 acres in existing plantations would have non-commercial thins to provide more growing space for the trees. Approximately 2.2 miles of temporary road and 1.7 miles of tracked line machine (TLM) trail would be constructed to access timber. Individual road lengths vary between 500 and 2,100 feet. Almost 19 miles of road would be stored and another 10 miles would be decommissioned. Twenty-two culverts would be removed at road-stream crossings, 16 of which deliver sediment to streams and two that block fish passage. On open roads, five culverts that block fish passage would be replaced with fish-passable structures. Also, about 297 acres of soil restoration would occur on terraced plantations after the units are thinned. Haul routes, temporary roads, TLM paths, landings, and roads proposed for decommissioning or storage would be treated with herbicide annually for about ten years (i.e., no more than 300 acres treated in any year, and no more than 1400 acres total).

Alternative 3 is designed to address issues associated with sediment and water quality, WUI treatments, forest treatments to restore resilience and Rombo fire effects. Alternative 3 includes fuels reduction on approximately 3,384 acres using commercial thinning (1,765 acres, with ground based and skyline cable logging systems), and prescribed fire. Approximately 91% of the treatment areas would occur in the WUI. Commercially thinned units would be underburned following harvest. Fuels would be reduced on another 727 acres using prescribed fire only. About 100 acres in existing plantations would have non-commercial thins to provide more growing space for the trees. Approximately 1.5 miles of temporary road and 1.6 miles of TLM

trail would be constructed to access timber. Individual road lengths vary between 1,200 and 2,100 feet. Approximately 18 miles of road would be stored and 27 miles decommissioned. Thirty-three culverts would be removed from road-stream crossings, 23 of which contribute sediment to streams. Because the Rombo fire reduced fuel loads in the upper end of the Piquett Creek drainage, some believe that commercial harvest and fuel treatments on the east side of West Fork River are unnecessary for community fire protection. Alternative 3 responds to this issue by dropping all the proposed treatment units on the east side of the West Fork River, except for treatments in the terraced plantations which were retained because reducing compaction in the terraced units would restore soil productivity and reduce the area of detrimental soil disturbance. No herbicide treatments are included in Alternative 3.

### **Comments:**

1. We appreciate the inclusion of clear narrative discussions describing alternatives, as well as the tables presenting important information and features of the alternatives, and tables comparing alternatives, and color foldout alternatives maps in Chapters 2 (Tables 2-2 to 2-8). We also appreciate inclusion of the information on BMPs and Cumulative Effects included in the Appendices. The narrative, tables, maps, figures and appendices facilitate improved project understanding, help define issues, and assist in evaluation of alternatives providing a clearer basis of choice among options for the decisionmaker and the public in accordance with the goals of NEPA.

### **Alternatives**

2. The EPA supports conduct of vegetation management activities to reduce fire risks and improve forest resilience to fire, and insects and disease. We encourage planning and conduct of vegetation management activities in a manner that minimizes adverse environmental effects, and addresses watershed restoration, particularly for a project in the watershed of a water quality impaired stream included on Montana's Clean Water Act Section 303(d) list (West Fork Bitterroot River). We support project planning and design to minimize adverse watershed effects, such as minimization of new road construction; siting of needed roads away from streams and wetlands, avoiding and minimizing road stream crossings; and improving road BMPS and drainage of existing roads. We also support including watershed restoration elements in the project to help address existing water quality impairments such as road decommissioning and road storage to reduce road sediment delivery to streams and improve watershed conditions, and reduce road density.

We are pleased that each of the action alternatives includes activities to improve watershed conditions (i.e., road storage and decommissioning, removing culverts that increase sediment production and/or serve as fish barriers, and restoring soil in areas impacted by prior terracing disturbances). Alternative 3 appears to include greater amounts of watershed improvement activities than Alternative 2 (e.g., 27 miles of road decommissioning and 33 stream crossing removals in Alternative 3 vs. 10 miles of road decommissioning and 22 stream crossing removals in Alternative 2), and would reduce

long term sedimentation more than Alternative 2 (33 tons/year sedimentation reduction vs. 27 tons/year with Alternative 2). Alternative 3 also includes less new road construction, which we consider advantageous since road construction, even construction of temporary roads, increases sediment production. Alternative 3 includes 1.5 miles of temporary road construction and 1.6 miles of tracked line machine (TLM) trail vs. 2.2 miles of temporary road and 1.7 miles of TLM trail for Alternative 2. It is also stated that the risk of sediment contributions to bull trout and westslope cutthroat trout habitat in Piquett Creek and its tributaries would be lower with Alternative 3 because of less timber harvest and log hauling in the Piquett Creek watershed (page 3.7-29). Alternative 3 includes 540 less acres of tractor harvest and 195 less acres of skyline harvest than Alternative 2 (page 3.9-10).

It does appear that Alternative 2 treats a greater amount of land, and thus, may reduce fire risks and may better address forest insects and disease concerns. There appear, therefore, to be environmental and resource management trade-offs associated with selecting between Alternatives 2 and 3. However, we support Alternative 3 over Alternative 2 due to the improved potential for watershed and water quality improvement and reduced impacts to fish habitat likely to occur with Alternative 3. We consider such benefits of Alternative 3 to be important because the West Fork Bitterroot River is a water quality impaired stream, and the project area is within the Bitterroot Headwaters Total Maximum Daily Load (TMDL) Planning Area. It is important that the proposed project be consistent with the Bitterroot Headwaters Water Quality Restoration Plan TMDL. This TMDL and Water Quality Restoration Plan identifies priority restoration actions that include upgrading road BMPs, road reclamation, stabilizing eroding streambanks, upgrading undersized culverts, correcting barriers to fish passage, improved grazing management. It appears to us that Alternative 3 with higher levels of road decommissioning and storage and stream crossing removals and sediment reduction would be more consistent with the Bitterroot Headwaters TMDL and Water Quality Restoration Plan.

### Vegetation Treatments

3. The DEIS Chapter 3 discussion of forest vegetation provides valuable information regarding forest structure and composition, disturbance, insects and pathogens, fire regimes, fuels and fire risks. We support vegetative treatments to reduce fire risks, susceptibility to insect and disease agents, increase structural diversity and ecological integrity. We generally favor understory thinning from below, slashing and prescribed fire to address fuels build-up with reduced ecological impacts. We also favor retention of the larger more vigorous trees, particularly trees of desirable tree species whose overall composition is in decline. We particularly support conduct of activities to restore Ponderosa pine and western larch. The larger healthier trees are generally long-lived and fire resistant, and provide important wildlife habitat. Harvest of many live mature trees could potentially increase fire risk, as well as reduce wildlife habitat. If the forest canopy is opened too much by removal of large fire resistant trees it may promote more vigorous

growth of underbrush and small diameter trees that would increase fuels and fire risk in subsequent years, contrary to the fire risk reduction purpose and need. We also support the need to restore fire as a natural disturbance process, and to help address competing and unwanted vegetation and fuel loads and fire risk and forest health.

The Lower West Fork project appears to be generally consistent with these measures, particularly the need to restore fire as a natural disturbance process and to retain and promote Ponderosa pine. We support efforts of the Bitterroot National Forest to retain large healthy Ponderosa pine and other trees of desirable species whose overall composition is in decline during proposed thinning harvests. It would be helpful if the extent of proposed harvest of large trees of desired species in Lower West Fork harvests were more clearly identified in the FEIS.

#### Water Resources, Fisheries, Soils

4. The Bitterroot National Forest should coordinate their proposed activities in the West Fork Bitterroot River watershed with Montana DEQ TMDL program staff to assure consistency of proposed activities with the State's Bitterroot Headwaters TMDL (contact Mr. Robert Ray at 406-444-5319). As noted above, we consider Alternative 3 to be most consistent with TMDL goals to reduce sediment delivery to area streams.
5. We are pleased that the DEIS includes good analysis of road sediment contributions to area surface waters (pages 3.6-7, 3.6-8, 3.6-16 to 18, 3.6-33). Management of roads and motorized uses is an important issue in watershed and forest management, since roads are often the major anthropogenic sediment source adversely affecting hydrology, water quality, and fisheries of streams in National Forests. Improperly designed and poorly located and/or maintained roads can modify natural drainage networks and accelerate erosional processes resulting in increased stream sedimentation, degradation of aquatic habitats, and altered channel morphology. The DEIS states that road are the greatest source of sediment to streams in the analysis area, especially the roads that encroach along Pierce Creek and Frazier Draw (page 3.6-33).

EPA fully supports conduct of road maintenance and BMP and drainage improvements to forest roads, and decommissioning of roads that cannot be properly maintained, and reductions in road density to improve watershed conditions. Road system improvement measures are critical to protecting aquatic health (e.g., removing and replacing culverts, installing drainage dips or surface water deflectors, armoring drainage structures, grading and replacement of aggregate to reinforce wet surface areas, ditch construction and cleaning). We are pleased that attention appears to have been given to improving the road system to reduce road sediment contributions in the West Fork drainage.

We are pleased that no permanent roads would be constructed in Alternatives 2 and 3, and that the short segments of temporary road would be located in upland locations that would not cross RHCAs (page 3.6-34). We are also pleased with the attention given to



closing roads to log haul during spring break up to reduce rutting of roads that increase road erosion and sediment delivery, and graveling of haul roads. As noted above we support Alternative 3 since we believe Alternative 3 would result in greater reductions in road sediment contributions to area streams than Alternative 2.

6. We realize Bitterroot NF staff are knowledgeable regarding road planning, design, construction and maintenance measures to minimize water quality effects, however, we still want to share some of our general recommendations regarding roads for your information. They are as follows:

- \* minimize road construction and reduce road density as much as possible to reduce potential adverse effects to watersheds;
- \* locate roads away from streams and riparian areas as much as possible;
- \* locate roads away from steep slopes or erosive soils;
- \* minimize the number of road stream crossings;
- \* stabilize cut and fill slopes;
- \* provide for adequate road drainage and control of surface erosion with measures such as adequate numbers of waterbars, maintaining crowns on roads, adequate numbers of rolling dips and ditch relief culverts to promote drainage off roads avoid drainage or along roads and avoid interception and routing sediment to streams;
- \* consider road effects on stream structure and seasonal and spawning habitats;
- \* allow for adequate large woody debris recruitment to streams and riparian buffers near streams;
- \* properly size culverts to handle flood events, pass bedload and woody debris, and reduce potential for washout;
- \* replace undersized culverts and adjust culverts which are not properly aligned or which present fish passage problems and/or serve as barriers to fish migration;
- \* use bridges or open bottom culverts that simulate stream grade and substrate and that provide adequate capacity for flood flows, bedload and woody debris where needed to minimize adverse fisheries effects of road stream crossings.

We also encourage conduct of inspections and evaluations to identify conditions on roads and other anthropogenic sediment sources in the watersheds in the project area that may cause or contribute to sediment delivery and stream impairment, and to include activities

in the project to correct as many of these conditions and sources as possible.

Blading of unpaved roads in a manner that contributes to road erosion and sediment transport to streams and wetlands should be avoided. It is important that management direction assures that road maintenance (e.g., blading) be focused on reducing road surface erosion and sediment delivery from roads to area streams. Practices of expediently sidecasting graded material over the shoulder and widening shoulders and snow plowing can have adverse effects upon streams, wetlands, and riparian areas that are adjacent to roads. Road use during spring breakup conditions should also be avoided. Snow plowing of roads later in winter for log haul should also be avoided to limit runoff created road ruts during late winter thaws that increase road erosion (i.e., ruts channel road runoff along roads).

Forest Service Region 1 provides training for operators of road graders regarding conduct of road maintenance in a manner that protects streams and wetlands, (i.e., Gravel Roads Back to the Basics). If there are road maintenance needs on unpaved roads adjacent to streams and wetlands we encourage utilization of such training (contact Donna Sheehy, FS R1 Transportation Management Engineer, at 406-329-3312).

We also note that there are training videos available from the Forest Service San Dimas Technology and Development Center for use by the Forest Service and its contractors (e.g., "Forest Roads and the Environment"-an overview of how maintenance can affect watershed condition and fish habitat; "Reading the Traveled Way" -how road conditions create problems and how to identify effective treatments; "Reading Beyond the Traveled Way"-explains considerations of roads vs. natural landscape functions and how to design maintenance to minimize road impacts; "Smoothing and Reshaping the Traveled Way"-step by step process for smoothing and reshaping a road while maintaining crowns and other road slopes; and "Maintaining the Ditch and Surface Cross Drains"-instructions for constructing and maintaining ditches, culverts and surface cross drains).

7. EPA considers the protection, improvement, and restoration of wetlands and riparian areas to be a high priority. Wetlands and riparian areas increase landscape and species diversity, and are critical to the protection of designated water uses. Executive Order 11990 requires that all Federal Agencies protect wetlands. In addition national wetlands policy has established an interim goal of **No Overall Net Loss of the Nation's remaining wetlands**, and a long-term goal of increasing quantity and quality of the Nation's wetlands resource base. (see "Presidential Wetland Policy of 1993" at website, <http://www.usace.army.mil/inet/functions/cw/cecwo/reg/aug93wet.htm>). Wetland impacts should be avoided, and then minimized, to the maximum extent practicable, and then unavoidable impacts should be compensated for through wetland restoration, creation, or enhancement.

Riparian Habitat Conservation Areas (RHCA's) are an important management element in the Interior Columbia Basin (ICB) Strategy to maintain and restore the health of

watersheds, riparian, and aquatic resources to sustain aquatic and terrestrial species and provide water of sufficient quality and quantity to support beneficial uses (see <http://www.icbemp.gov/html/icbstrat.pdf> ; and “A Framework for Incorporating the Aquatic and Riparian Habitat Component of the Interior Columbia Basin Strategy into BLM and Forest Service Plan Revisions,” <http://www.icbemp.gov/html/aqripfrm7804.pdf> ). It is important that proposed activities be consistent with the riparian management objectives described in the ICB Strategy, which include:

- \* Achieve physical integrity of aquatic ecosystems;
- \* Provide an amount and distribution of woody debris sufficient to sustain physical and biological complexity;
- \* Provide adequate summer and winter thermal regulation;
- \* Provide appropriate amounts and distributions of source habitats for riparian- or wetland-dependent species; and
- \* Restore or maintain water quality and hydrologic processes.
- \* Restore or maintain naturally functioning riparian vegetation communities.

We are pleased that all timber management activities would be conducted to comply with INFISH standards and guidelines avoiding harvest in Riparian Habitat Conservation Areas (RHCAs) buffers; no timber harvest and no equipment operation would occur in wetlands and appropriate use of BMPs to all harvest and vegetation management activities (page 3.6-36, 3.6-42). It is important that wetlands are included as RHCAs, and that timber harvest, road construction, or operation of heavy equipment not be allowed in wetland areas. We recommend that harvest units be reviewed in the field to determine the presence of wetlands and identify wetlands on the Sale Area Map and be flagged on the ground so that timber contractors will be able to avoid them.

## Soils

8. We appreciate the disclosure of information in the DEIS on proposed methods of harvesting or yarding trees in Tables 2-2 and 2-3. An amount of 1,043 acres and 808 acres are proposed for ground based harvesting in Alternatives 2 and 3, respectively. Landtypes 13B10, 17B32, 31K56, 32B39, and 36D43 are stated to have potential compaction risk from ground based activities (page 3.5-5). We only saw reference to winter ground based harvesting for 55 acres on unit 1 (page 3.5-25). Are any other ground harvest units to be harvested during winter on snow or frozen ground to reduce adverse effects to soils and erosion? Would it be appropriate to use skyline or winter harvesting for harvest units on any other such landtypes?

We generally recommend avoidance of timber harvest and road construction in areas with high risk of sediment production or erosion potential and areas highly susceptible to mass failure, and encourage use of harvest/yarding methods that reduce ground disturbance and sediment production and transport risks when harvesting timber on erosive soils or steep

slopes to reduce adverse effects to soil and water quality. Although the DEIS states that proposed activities would comply with Region 1 soil quality standards (page 3.6-36), we still want to encourage the Bitterroot NF to review proposed measures to protect soils and reduce erosion to assure that all of the units with particularly sensitive soils or on landtypes with greater vulnerability or risk of detrimental soil disturbance such as erosion, compaction, and mass wasting include adequate mitigation measures and/or less damaging harvest methods to avoid erosion and other detrimental soil impacts and/or higher levels of sediment production and transport.

We appreciate the summary of soils mitigation measures included on pages 3.5-25 to 3.5-27. We often suggest measures such as use of existing skid trails wherever possible; restrictions on skidding with tracked machinery in sensitive areas; using slash mats to protect soils; constructing water bars; creating brush sediment traps; adding slash to skid trail surfaces after recontouring and ripping; seeding/planting of forbs, grasses or shrubs to reduce soil erosion and hasten recovery; as well as recontouring, slashing and seeding of temporary roads and log landing areas following use to reduce erosion and adverse impacts to soils.

While we have some concerns about the potential for erosion and soil and water quality impacts during ground based timber harvests, we appreciate the identification and discussion of the extent to which timber harvest, temporary road construction, timber harvest and prescribed burning would take place on sensitive soils in the Lower West Fork Project, and the consideration that has been given to mitigation of soils impacts.

9. We are pleased that coarse woody debris would be retained (from 5 to 24 tons per acre depending on fire group) on harvest sites to help maintain soil productivity (Table 3.5-5, page 3.5-13). It is important that adequate woody debris is retained on site to maintain soil productivity. We are also pleased that previously disturbed terraces would be restored in both action alternatives.
10. It appears that the Region 1 Soil Monitoring Protocol (DRAFT - The 2007 Northern Region Soil Quality Monitoring Protocol, 6-15-07, Version 3.1) would be used to evaluate effects to soils from proposed management activities (page 3.5-1). It is important that field soil monitoring and analysis take place to verify that the Region 1 soil quality thresholds are not exceeded, particularly on the sensitive landtypes. Will field soil monitoring allow quantification of benefits to soils that may be restored on the previously disturbed terrace areas?

#### Monitoring

11. We believe monitoring should be an integral part of land management. The EPA endorses the concept of adaptive management whereby effects of implementation activities are determined through monitoring (i.e., ecological and environmental effects). It is through the iterative process of setting goals and objectives, planning and carrying

out projects, monitoring impacts of projects, and feeding back monitoring results to managers so they can make needed adjustments, that adaptive management works. In situations where impacts are uncertain, monitoring programs allow identification of actual impacts, so that adverse impacts may be identified and appropriately mitigated.

The EPA particularly believes that water quality/aquatics monitoring is a necessary and crucial element in identifying and understanding the consequences of one's actions, and for determining effectiveness in BMPs in protecting water quality. The achievement of water quality standards for non-point source activities occurs through the implementation of BMPs. Although BMPs are designed to protect water quality, they need to be monitored to verify their effectiveness. If found ineffective, the BMPs need to be revised, and impacts mitigated. We encourage adequate monitoring budgets for conduct of aquatic monitoring to document BMP effectiveness and long-term water quality improvements associated with road BMP work and road decommissioning.

Monitoring is briefly discussed in the DEIS on page 2-22. We are pleased that monitoring will include evaluation of pre and post-harvest fish populations and water temperatures in four streams after all of the timber harvest and log hauling activities have been completed in their respective drainages (i.e., Pierce, Lavene, Piquett, and East Piquett Creeks). Fisheries biologists will also monitor the implementation and effectiveness of the fisheries mitigation measures during and after project implementation.

We generally recommend that more aquatic monitoring be included in projects, using aquatic monitoring parameters such as channel cross-sections, bank stability, width/depth ratios, riffle stability index, pools, large woody debris, fine sediment, pebble counts, macroinvertebrates, etc.. Biological monitoring can be particularly helpful, since monitoring of the aquatic biological community integrates the effects of pollutant stressors over time and, thus, provides a more holistic measure of impacts than grab samples.

We believe that the Lower West Fork project appears to be designed to minimize water quality and aquatic impacts, and recognizing that there are limited resources for monitoring, we can accept a lesser level of aquatic monitoring for this project. We note that there may be PACFISH/INFISH Biological Opinion (PIBO) monitoring sites in the project area that could also be used to help evaluate actual project effects (<http://www.fs.fed.us/biology/fishecolony/emp/index.html>). If there are PIBO monitoring sites in the area they should also be considered for their potential to evaluate project effects.

## Air Quality

12. The action alternatives include a significant amount of underburning on harvested areas and prescribed burning. The EPA supports judicious and well planned use of prescribed fire to reduce hazardous fuels and restore fire to forest ecosystems. The DEIS includes a

good analysis and discussion of project air quality conditions and effects from proposed burning activities (pages 3.3-1 to 3.4-13). We particularly appreciate the identification of mitigation measures to reduce air quality impacts (page 3.4-5), and the Tables and Figures showing estimated PM 2.5 emissions and downwind levels, which improve understanding of potential air quality impacts .

We are pleased that prescribed burning will be done in compliance with requirements of the Montana/Idaho Airshed Group Smoke Management Plan (page 3.4-5). It may be of interest to the public to display the website for the Montana/Idaho State Airshed Group, <http://www.smokemu.org> . Prescribed burning done in accordance with a certified State Smoke Management Plan such as the Montana/Idaho Airshed Group is consistent with EPA's *Interim Air Quality Policy on Wildland and Prescribed Fire*. This is Federal policy which reconciles the competing needs to conduct prescribed fires to manage vegetation and restore fire to fire adapted ecosystems while at the same time maintaining clean air to protect public health. A copy of the *Interim Air Quality Policy* can be found at: <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf> . EPA air quality guidance can be found at <http://www.epa.gov/air/caa/> .

It is important to disclose that even though prescribed burns will be scheduled during periods of favorable meteorological conditions for smoke dispersal, the weather can change causing smoke not to disperse as intended. This can be especially problematic for smoldering pile burns when a period of poor ventilation follows a good ventilation day. Also, if there is potential for smoke to drift into populated areas there should be public notification prior to burns so sensitive people (e.g., people suffering from respiratory illnesses such as asthma or emphysema, or heart problems) can plan accordingly.

#### Noxious Weeds

13. Weeds are a great threat to biodiversity and can often out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. We appreciate the discussion of noxious weeds (pages 3.9-1 to 3.9-12). Alternative 2 includes herbicide treatments to address weed spread on haul routes, temporary roads, TLM paths, landings, and roads proposed for decommissioning or storage. Alternative 2 proposes to treat up to 300 acres per year with herbicides (page 3.6-23) along haul roads, on decommissioned and stored roads and in harvest units. Alternative 3 does not propose herbicide use. It is not clear to us why no use of herbicides is considered in Alternative 3 to control weeds that may develop in areas of harvest and road work. We suggest that this be clarified in the FEIS.

We encourage tracking of weed infestations, control actions, and effectiveness of control actions in a Forest-level weed database. Weed prevention is the most cost-effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments. Measures that we often recommend for preventing spread of weeds from source areas to uninfested areas include:

- ▶ Ensure that equipment tracks and tires are cleaned prior to transportation to an uninfested site.
- ▶ Focus control efforts at trail heads and transportation corridors to prevent tracking of seed into uninfested areas.
- ▶ Attempt to control the spread from one watershed to another to reduce water as a transport vector.
- ▶ If a localized infestation exists and control is not a viable option, consider rerouting trails or roads around the infestation to reduce available vectors for spread.
- ▶ Establish an education program for industrial and recreational users and encourage voluntary assistance in both prevention and control activities.
- ▶ Reseed disturbed sites as soon as possible following disturbance.

Weed seeds are transported by wind and water, animal fur, feathers and feces, but primarily by people. The greatest vector for spread of weeds is through motorized vehicles-cars, trucks, ATVs, motorcycles, and even snowmobiles. Weed seeds are often caught on the vehicle undercarriage in mud and released on the Forest. A single vehicle driven several feet through a knapweed site can acquire up to 2,000 seeds, 200 of which may still be attached after 10 miles of driving (Montana Knapweeds: Identification, Biology and Management, MSU Extension Service).

We believe an effective noxious weed control program should consider restrictions on motorized uses, particularly off-road uses, where necessary. Off-road vehicles travel off-trail, disturbing soil, creating weed seedbeds, and dispersing seeds widely. Weed seed dispersal from non-motorized travel is of lesser concern because of fewer places to collect/transport seed, and the dispersal rate and distances along trails are less with non-motorized travel. Restrictions on motorized uses may also be needed after burning and harvest activities until native vegetation is reestablished in the disturbed areas to reduce potential for weed infestation of the disturbed sites.

Prescribed fire has the potential to stimulate weed growth (e.g., Dalmation toadflax or leafy spurge), and can destroy insects planted for biological weed control. We suggest that these considerations be evaluated for burn units. The effect of burning on the potential stimulation of noxious weeds be evaluated during site-specific project level analysis. Also, if sufficient vegetation is killed (e.g., by prescribed burning) it may warrant revegetation efforts. Where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native species to eventually prevail.

While we support use of weed control chemicals where needed, we encourage prioritization of management techniques that focus on non-chemical treatments first, with reliance on chemicals being the last resort, since weed control chemicals can be toxic and have the potential to be transported to surface or ground water following application. Early recognition and control of new infestations is encouraged to stop the spread of the

infestation and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on water quality, fisheries, and biodiversity. It is important that the water contamination concerns of herbicide usage be fully evaluated and mitigated. All efforts should be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses. The Montana Water Quality Standards include a general narrative standard requiring surface waters to *be free from substances that create concentrations which are toxic or harmful to aquatic life*. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species.

We are pleased that potential effects of use of herbicides on aquatic life has been evaluated (pages 3.6-23, 3.7-22), and that the herbicides proposed for use have relatively low toxicity (page 3.6-6), although some herbicide shown in Table 3.5-8 (page 3.5-22) can exhibit toxicity, and it is stated that of the most commonly used herbicides on the Bitterroot National Forest, picloram, is the most toxic to fish (page 3.6-6). Picloram (Tordon) is a particularly persistent, mobile and toxic herbicide. It is stated that the maximum application rate of picloram would be 1.0 pound per acre (page 3.5-27). We generally recommend that picloram not be used at rates greater than 0.25 lbs/acre, and suggest that the Forest Service consider applications of persistent herbicides such as picloram only once per year to reduce potential for accumulation in soil. Potential for persistent herbicides to accumulate in soil in harmful amounts are reduced if sites are treated only once per year (twice being the limit) with lower application rates. Trade-offs between effective weed control and effects on soil productivity and leaching concerns should be considered. A second treatment application if needed should only occur after 30 days (or according to label directions). We also recommend that road ditches leading to intermittent and perennial streams be flagged as no-spray zones and not sprayed with picloram based herbicides. Herbicides should be applied at the lowest rate effective in meeting weed control objectives and according to guidelines for protecting public health and the environment.

For your information, Dow AgroSciences, the manufacturer of Tordon 22K, has developed supplemental labeling for Tordon 22K for areas west of the Mississippi River. They have directions for wick or carpet roller applications. Tordon 22K herbicide can be applied using wick or carpet roller equipment where drift presents a hazard to susceptible crops, surface waters, and other sensitive areas. One part Tordon 22K is mixed with 2 parts water to prepare a 33% solution. The wick method of application is more labor intensive but very effective at targeting particular noxious weeds adjacent to surface waters, wetlands, or protected plants.

Most picloram products, including Tordon 22K, are Restricted Use Pesticides (RUPs) requiring pesticide applicator certification to purchase and apply. It is important that U.S. Forest Service employees be certified throughout the duration of the project. If commercial applicators will be contracted for RUP applications, we recommend checking to make sure their MT commercial RUP license is current. Please contact Montana Dept.



of Agriculture at (406) 444-5400 for more information. Also, please note that registration for Access (which has picloram as an active ingredient) is cancelled.

Some suggestions we have to reduce potential water quality and fisheries effects from herbicide spraying are to assure that applicators: 1) are certified and fully trained and equipped with the and appropriate personal protective equipment; 2) apply herbicides according to the label; and 3) herbicide applicators should take precautions during spraying (e.g., applying herbicide only after careful review of weather reports to ensure minimal likelihood of rainfall within 24 hours of spraying; special precautions adjacent to the stream to reduce runoff potential; etc.; 4) no herbicide spraying will occur in streams and wetlands or other aquatic areas (seeps, springs, etc.); 5) streams and wetlands in any area to be sprayed be identified and flagged on the ground to assure that herbicide applicators are aware of the location of wetlands, and thus, can avoid spraying in or near wetlands; 6) use treatment methods that target individual noxious weed plants in riparian and wetland areas (depending on the targeted weed species, manual control or hand pulling may be one of the best options for weed control within riparian/wetland areas or close to water).

We also recommend that weed treatments be coordinated with the Forest botanist to assure protection to sensitive plants, and coordinated with fisheries biologists and wildlife biologists to assure that sensitive fisheries and wildlife habitat areas are protected. Please also note that there may be additional pesticide use limitations that set forth geographically specific requirements for the protection of endangered or threatened species and their designated critical habitat. This information can be found at <http://www.epa.gov/espp/bulletins.htm> . You may also want to consider use of a more selective herbicide (clopyralid) for use in conifer associated communities to reduce impacts on non-target vegetation. We also note that spotted knapweed, which is a prevalent noxious weed species in western Montana, is non-rhizomatous and should be relatively easy to control with lower rates of the most selective low toxicity herbicides.

We also appreciate the discussion of human health and herbicide use (pages 3.15-1 to 3.15-1, 3.15.-2). For your information, the website for EPA information regarding pesticides and herbicides is <http://www.epa.gov/pesticides/> . The National Pesticide Telecommunication Network (NPTN) website at <http://nptn.orst.edu/tech.htm> which operates under a cooperative agreement with EPA and Oregon State University and has a wealth of information on toxicity, mobility, environmental fate on pesticides that may be helpful (phone number 800-858-7378).

#### Wildlife/T&E Species

14. We are pleased that there would be no change to existing old growth habitat percentages or conditions, since treatments would retain old growth stand characteristics although fuels reductions would occur (page 3.8-7). We support protection of old growth habitats and maintenance or restoration of native, late-seral overstory trees and forest composition

and structure within ranges of historic natural variability. Old growth stands are ecologically diverse and provide good breeding and feeding habitat for many bird and animal species, which have a preference or dependence on old growth (e.g., barred owl, great gray owl, pileated woodpecker). Much old growth habitat has already been lost, and we it is important that management direction prevent continued loss of old growth habitat and promote long-term sustainability of old growth stands, and restore where possible the geographic extent and connectivity of old growth.

We do want to state that we believe that we do not oppose underburning to reduce fuel loads and ladder fuels in old growth, since it lessens the threat of stand removal by a wildfire and reduces competition with other vegetation to promote large diameter trees. Careful prescribed burning in old growth stands can reduce fuel loads and fire risk in such stands, and thus, may promote long-term protection and sustainability of old growth stands.

15. The DEIS states that proposed timber harvest and burning will reduce snags and cavity habitat in 13% of the project area in Alternative 2 and (page 38-13), but that 2-5 to 10-15 snags would be retained depending upon the habitat type (page 1-11).
16. We are pleased that the DEIS indicates that the proposed project would, “not likely to jeopardize the gray wolf” (page 3.8-13), and would have “no effect on lynx” (page 3.8-14). If it is determined that the finally selected project alternative could adversely affect any threatened or endangered species (e.g., gray wolf, lynx) the final EIS should include the associated U.S. Fish & Wildlife Service (USFWS) Biological Opinion or formal concurrence for the following reasons:
  - (a) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;
  - (b) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and
  - (c) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

Since the Biological Assessment and EIS must evaluate the potential impacts on listed species, they can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk USFWS identification of additional

significant impacts, new mitigation measures, or changes to the preferred alternative.